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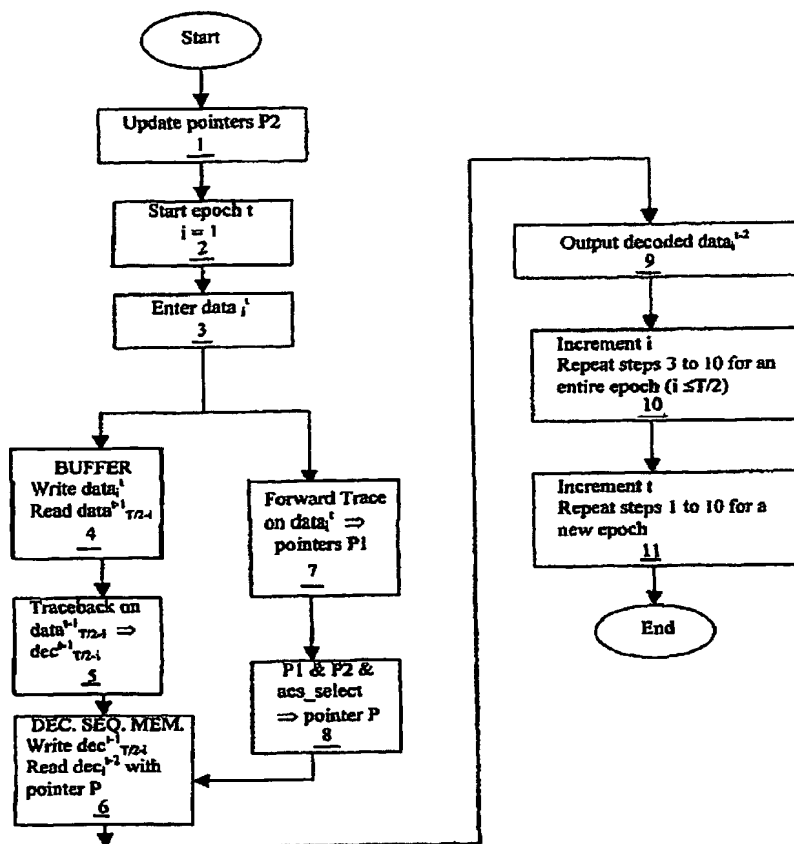
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- (71) Applicant (*for all designated States except US*): **THOMSON LICENSING S.A. [FR/FR]**; 46, Quai A. Le Gallo, F-92648 Boulogne (FR).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **MARKMAN, Ivonete** [US/US]; 11388 Royal Court, Carmel, IN 46032 (US).
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(54) Title: A MEMORY MANAGEMENT ALGORITHM FOR TRELLIS DECODERS



(57) Abstract: An improved all-path traceback/forward trace (APTFT) system for use in managing the memory used in processing decoded survivor sequences produced by a trellis decoder network. The memory size is decreased to  $T \cdot N$ , where  $T$  is a predetermined survivor memory depth and  $N$  is the number of states in the trellis. The latency value of the present system is equal to  $T$ . Both the memory requirement and latency value represent a 33% decrease in the value of similar parameters produced in a prior art APTFT system. An existing forward trace/path selection unit is modified to take advantage of the inherent nature of the forward trace process (7) in order to simplify the decoding system (9). A generalized version of the APTFT system permits greater flexibility in the choice of memory size and latency values needed to satisfy the requirements of a particular decoding system.

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